CLAIMS

The invention claimed is

1. A sound reproduction system comprising at least two sound sources, at least one of said at least two sound sources emitting an acoustical sound wave with a nonuniform amplitude distribution pattern, the sound sources together producing an area remote from the respective sound sources including points non-equidistant from the at least two sound sources where amplitudes received from the at least two sound sources are approximately equal at points within the area.

2. A sound reinforcement or reproduction system of claim 1 wherein the sound sources are displaced from the plane of the listening positions.

3. The sound production system of claim 1 wherein at least one sound source further comprises a plurality of sound sources radiating acoustical waves in nonparallel directions and in unequal amplitudes.

4. A sound reinforcement or reproduction system of claim 3 wherein the sound sources are displaced from the plane of the listening positions.

5. The sound production system of claim 1 wherein the amplitude of a first acoustical wave emitted from a first sound source in a first direction is a multiple of the amplitude of a second acoustical wave emitted from a second sound source in a second direction intersecting the first acoustical wave within said remote area at a point of intersection, the multiple being a function of the relative distances of said first and second sound sources from said intersection.

6. A sound reinforcement or reproduction system of claim 5 wherein the sound sources are displaced from the plane of the listening positions.

7. A sound reproduction system comprising at least two sound sources and a mask between the sound source and said area toward which the sound source is directed, the mask having an nonuniform absorption capability yielding an acoustical wave emerging therefrom having a nonuniform amplitude distribution, the sound sources and the mask together producing an area remote from the respective sound sources including points non-equidistant from the at least two sound sources where amplitudes received from the at least two sound sources are approximately equal at points within the area.

8. A sound reinforcement or reproduction system of claim 7 wherein the sound sources are displaced from the plane of the listening positions.

9. The sound reproduction system of claim 5 wherein distance, t, between the point of intersection within the remote area and the first sound source is a function of distance, s, between the point of intersection within the remote area and the second sound source.

10. A sound reinforcement or reproduction system of claim 9 wherein the sound sources are displaced from the plane of the listening positions.

11. The sound reproduction system of claim 9 wherein said function is in accordance with the following relationship $t2 = r2 + s2 - 2rs \cos q$ where : r represents the distance between sound sources at A and B, s the distance between B and C, a listener location, t the distance between A and C, and q the angle between lines AB and BC.

12. A sound reinforcement or reproduction system of claim 11 wherein the sound sources are displaced from the plane of the listening positions.

13. A sound reproduction system producing a sound image at a plurality of listening locations within an area remote apparently emanating from a point equidistant between the sound sources, the system comprising at least two sound sources including a plurality of directional sound sources, arranged such that amplitudes of sound waves from the respective sound sources at points within the remote areas are approximately equal.

14. A sound reinforcement or reproduction system of claim 13 wherein the sound sources are displaced from the plane of the listening positions.

15. The sound reproduction system of claim 13 comprising two sound sources respectively representing left and right stereo sound signals with directionally nonuniform wave amplitude distribution patterns wherein each of the two sound sources comprises a plurality of acoustical wave loud speakers.

16. A sound reinforcement or reproduction system of claim 15 wherein the sound sources are displaced from the plane of the listening positions.

17. In a sound reproduction system including a plurality of sound sources, the method of obtaining remote areas non-equidistant from the sound sources where acoustical wave amplitudes received from said plurality of sound sources are approximately equal, comprising the following steps:

a. Positioning said plurality of sound sources before the remote areas;

b. Adjusting the acoustical wave amplitudes emanating from the sound sources as a function of direction to create an amplitude distribution pattern varying with direction of emission yields approximately equal amplitudes received within said remote areas.

18. The method of claim 17 wherein the additional step of positioning said sound sources out of the plane of the listening areas is added.

19. The method of claim 17 wherein the radiation from each source varies substantially in accordance with the formula $t2 = r2 + s2 - 2rs \cos q$ where :

r represents the distance between sound sources at A and B,
s the distance between B and C, a listener location,
t the distance between A and C, and
q the angle between lines AB and BC.

20. The method of claim 19 wherein the additional step of positioning said sound sources out of the plane of the listening areas is added.

21. A system for an audience area, the audience area having a near field compensation border, the audience area being adjacent a second area along the near field compensation border, the second area having a first reference location the system comprising:

a plurality of sound emitters configured to be placed in a first configuration in the second area; and

an emitter energy apportioner configured to be coupled to the plurality of sound emitters to send signals to the sound emitters having energy distributed amongst the signals such that the sound emitters being in the first configuration in the second area collectively emit a first sound pattern, the first sound pattern configured to be received having a first sound energy amplitude for at least a first sound frequency by a sound receiver at a first location in the audience area a first distance from the near field compensation border and a second distance from the first reference location with the sound receiver facing the first reference location in the second area, the first sound pattern configured to be received having a second sound energy amplitude for at least the first sound

frequency by the sound receiver at a second location in the audience area a third distance from the near field compensation border and a fourth distance from the first reference location with the sound receiver facing the first reference location in the second area, the first distance approximating the third second distance, the second distance being different from the fourth distance, and the first sound energy amplitude approximating the second sound energy amplitude.

22. A system for an audience area, the audience area having a near field compensation border, the audience area containing a sound receiver having a left channel sound receiver and a right channel sound receiver, the audience area being adjacent a second area along the near field compensation border, the second area having a first reference location the system comprising:

a plurality of sound emitters configured to be placed in a first configuration in the second area; and

an emitter energy apportioner configured to be coupled to the plurality of sound emitters to send signals to the sound emitters having energy distributed amongst the signals such that the sound emitters being in the first configuration in the second area collectively emit a first sound pattern, the first sound pattern configured to be received having a first audible sound information content with a first left channel frequency-amplitude distribution to be received by the left channel receiver of the sound receiver and a first right channel frequency-amplitude distribution to be received by the right channel receiver of the sound receiver at a first location in the audience area a first distance from the near field compensation border and a second distance from the first reference location with the sound receiver facing the first reference location in the second area, the first sound pattern configured to be received having a second audible sound information content with a second left channel frequency-amplitude distribution to be received by the left channel receiver of the sound receiver and a second right channel frequency-amplitude distribution to be received by the right channel receiver of the sound receiver by the sound receiver at a second location in the audience area a third distance from the near field compensation border and a fourth distance from the first reference location with the sound receiver facing the first reference location in the second area, the first distance approximating the third distance, the second distance being different from the fourth distance, and the differences between the first left channel frequency-amplitude distribution and

the first right channel frequency-amplitude distribution approximating the differences between the second left channel frequency-amplitude distribution and the second right channel frequency-amplitude distribution.

23. The system of claim 22 wherein the sound receiver is a human and the left channel sound receiver is the human's left ear and the right channel sound receiver is the human's right ear, and wherein the first audible sound information content and the second audible sound information content are of one of a solo performer.

24. A system for an audience area, the audience area having a near field compensation border and a far field compensation border, the audience area having first and second portions on approximately either side of an imaginary axis line running from the near field compensation border to the far field compensation border, the audience area being adjacent a second area along the near field compensation border, the axis line extending into the second area, the system comprising:

a first emitter array having a first plurality of sound emitters located in the second area on a first side of the axis line, at least one of the first plurality of sound emitters positioned as an inwardly directed first emitter to emit sound toward the audience area and toward the axis line, at least one of the first plurality of sound emitters positioned as an outwardly directed first emitter to emit sound toward the audience area and away from the axis line; a second emitter array having a second plurality of sound emitters located in the second area on a second side of the axis line, at least one of the second plurality of sound emitters positioned as an inwardly directed second emitter to emit sound toward the audience area and toward the axis line, at least one of the second plurality of sound emitters positioned as an outwardly directed second emitter to emit sound toward the audience area and away from the axis line; and

an emitter energy apportioner configured to be coupled to the first plurality of sound emitters and the second plurality of sound emitters to send a first signal having a first information content to the first plurality of sound emitters in an apportioned manner so that the first signal received by the inwardly directed first emitter has a larger magnitude than the first signal received by the outwardly directed first emitter and to send a second signal having a second information content to the second plurality of sound emitters in an apportioned manner so that

the second signal received by the inwardly directed second emitter has a larger magnitude than the first signal received by the outwardly directed second emitter.

25. A system for an audience area, the audience area having a near field compensation border and a far field compensation border, the audience area having first and second portions on approximately either side of an imaginary axis line running from the near field compensation border to the far field compensation border, the audience area being adjacent a second area along the near field compensation border, the axis line extending into the second area, the system comprising:

a first emitter array having a first plurality of sound emitters located in the second area on a first side of the axis line, a first of the first plurality of sound emitters positioned to direct a center of a sound wave at a first angle with respect to the axis line and a second of the first plurality of sound emitters to direct a center of a sound wave sound at a second angle with respect to the axis line; a second emitter array having a second plurality of sound emitters located in the second area on a second side of the axis line, a first of the second plurality of sound emitters positioned to direct a center of a sound wave at a third angle with respect to the axis line and a second of the second plurality of sound emitters to direct a center of a sound wave sound at a fourth angle with respect to the axis line; and

an emitter energy apportioner configured to be coupled to the first plurality of sound emitters and the second plurality of sound emitters to send a first signal having a first information content to the first plurality of sound emitters in an apportioned manner so that the first signal received by the first of the first plurality of sound emitters has a different degree of magnitude than the first signal received by the second of the first plurality of sound emitters and to send a second signal having a second information content to the second plurality of sound emitters in an apportioned manner so that the second signal received by the first of the second plurality of sound emitters has a different degree of magnitude than the second signal received by the second of the second plurality of sound emitters so that at a number of locations in the audience area equidistant from the near field compensation border and at different distances from the axis line the amplitude of sound received from the first emitter array is approximately

constant and the amplitude of sound received from the second emitter array is approximately constant.

26. A system for an audience area, the audience area having a near field compensation border and a far field compensation border, the audience area having first and second portions on approximately either side of an imaginary axis line running from the near field compensation border to the far field compensation border, the audience area being adjacent a second area along the near field compensation border, the axis line extending into the second area, the system comprising:

a first emitter array having a first plurality of sound emitters located in the second area on a first side of the axis line, at least one of the first plurality of sound emitters positioned as an inwardly directed first emitter to emit sound toward the audience area and toward the axis line, at least one of the first plurality of sound emitters positioned as an outwardly directed first emitter to emit sound toward the audience area and away from the axis line; a second emitter array having a second plurality of sound emitters located in the second area on a second side of the axis line, at least one of the second plurality of sound emitters positioned as an inwardly directed second emitter to emit sound toward the audience area and toward the axis line, at least one of the second plurality of sound emitters positioned as an outwardly directed second emitter to emit sound toward the audience area and away from the axis line; and

an emitter energy apportioner configured to be coupled to the first plurality of sound emitters and the second plurality of sound emitters to send a first signal having a first information content to the first plurality of sound emitters and to send a second signal having a second information content to the second plurality of sound emitters in an apportioned manner so that as the amplitude of the first signal received by the inwardly directed first emitter is increased in amplitude a first degree, the amplitude of the first signal received by the outwardly directed first emitter is decreased in amplitude by the first degree and the second signal received by the inwardly directed second emitter is increased by the first degree and the second signal received by the outwardly directed second emitter is decreased by the first degree.

27. A system for an audience area, the audience area having a near field compensation border and a far field compensation border, the audience

area having first and second portions on approximately either side of an imaginary axis line running from the near field compensation border to the far field compensation border, the audience area being adjacent a second area along the near field compensation border, the axis line extending into the second area, the system comprising:

a first emitter array having a first plurality of sound emitters located in the second area on a first side of the axis line, at least one of the first plurality of sound emitters positioned as an inwardly directed first emitter to emit sound toward the audience area and toward the axis line, at least one of the first plurality of sound emitters positioned as an outwardly directed first emitter to emit sound toward the audience area and away from the axis line; a second emitter array having a second plurality of sound emitters located in the second area on a second side of the axis line, at least one of the second plurality of sound emitters positioned as an inwardly directed second emitter to emit sound toward the audience area and toward the axis line, at least one of the second plurality of sound emitters positioned as an outwardly directed second emitter to emit sound toward the audience area and away from the axis line; and

an emitter energy apportioner configured to be coupled to the first plurality of sound emitters and the second plurality of sound emitters to send a first signal having a first information content to the first plurality of sound emitters and to send a second signal having a second information content to the second plurality of sound emitters in an apportioned manner so that as the amplitude of the sound emitted by the inwardly directed first emitter is increased in the amplitude a first degree, the amplitude of the sound emitted by the outwardly directed first emitter is decreased in amplitude by the first degree, the sound emitted by the inwardly directed second emitter is increased by the first degree and the sound emitted by the outwardly directed second emitter is decreased by the first degree.

28. A system for an audience area, the audience area having a near field compensation border and a far field compensation border, the audience area having first and second portions on approximately either side of an imaginary axis line running from the near field compensation border to the far field compensation border, the audience area being adjacent a second area along the

near field compensation border, the axis line extending into the second area, the system comprising:

a first emitter array having a first plurality of sound emitters located in the second area on a first side of the axis line, the first plurality having a plurality of rows of sound emitters, the emitters for each row being angled differently relative to a horizontal reference, each of the rows of emitters being associated with a different section of the audience area having a different minimum distance and a different maximum distance from the near field compensation border, for each row, at least one of the first plurality of sound emitters positioned as an inwardly directed first emitter to emit sound toward the audience area and toward the axis line, for each row, at least one of the first plurality of sound emitters positioned as an outwardly directed first emitter to emit sound toward the audience area and away from the axis line; a second emitter array having a second plurality of sound emitters located in the second area on a second side of the axis line, the second plurality having a plurality of rows of sound emitters, the emitters for each row being angled differently relative to a horizontal reference, each of the rows of emitters being associated with a different section of the audience area having a different minimum distance and a different maximum distance from the near field compensation border, for each row, at least one of the second plurality of sound emitters positioned as an inwardly directed second emitter to emit sound toward the audience area and toward the axis line, for each row, at least one of the second plurality of sound emitters positioned as an outwardly directed second emitter to emit sound toward the audience area and away from the axis line; and

an emitter energy apportioner configured to be coupled to the first plurality of sound emitters and the second plurality of sound emitters to send a first signal having a first information content to the first plurality of sound emitters in an apportioned manner so that the first signal received by the inwardly directed first emitter of each row has a larger magnitude than the first signal received by the outwardly directed first emitter of each row, the difference in magnitudes between signals being received by the inwardly directed first emitter and outwardly directly first emitter of each row being smaller as the row is associated with sections of the audience area with larger minimum and maximum distances from the near field border, and to send a second signal having a second

information content to the second plurality of sound emitters in an apportioned manner so that the second signal received by the inwardly directed second emitter of each row has a larger magnitude than the first signal received by the outwardly directed second emitter of each row, the difference in magnitudes between signals being received by the inwardly directed second emitter and outwardly directly second emitter of each row being smaller as the row is associated with sections of the audience area with larger minimum and maximum distances from the near field border.

29. A system for an audience area, the audience area having a near field compensation border and a far field compensation border, the audience area having first and second portions on approximately either side of an imaginary axis line running from the near field compensation border to the far field compensation border, the audience area being adjacent a second area along the near field compensation border, the axis line extending into the second area, the system comprising:

a first emitter array having a first plurality of sound emitters located in the second area on a first side of the axis line, the first plurality having a plurality of rows of sound emitters, the emitters for each row being angled differently relative to a horizontal reference, each of the rows of emitters being associated with a different section of the audience area having a different minimum distance and a different maximum distance from the near field compensation border, for each row, at least one of the first plurality of sound emitters positioned as an inwardly directed first emitter to emit sound toward the audience area and toward the axis line, for each row at least one of the first plurality of sound emitters positioned as an outwardly directed first emitter to emit sound toward the audience area and away from the axis line; a second emitter array having a second plurality of sound emitters located in the second area on a second side of the axis line, the second plurality having a plurality of rows of sound emitters, the emitters for each row being angled differently relative to a horizontal reference, each of the rows of emitters being associated with a different section of the audience area having a different minimum distance and a different maximum distance from the near field compensation border, for each row, at least one of the second plurality of sound emitters positioned as an inwardly directed second emitter to emit sound toward the audience area and toward the axis line,

for each row, at least one of the second plurality of sound emitters positioned as an outwardly directed second emitter to emit sound toward the audience area and away from the axis line; and

an emitter energy apportioner configured to be coupled to the first plurality of sound emitters and the second plurality of sound emitters to send a first signal having a first information content to the first plurality of sound emitters and to send a second signal having a second information content to the second plurality of sound emitters in an apportioned manner so that as the amplitude of the sound emitted by the inwardly directed first emitter of each row is increased in the amplitude a first relative degree, the amplitude of the sound emitted by the outwardly directed first emitter of each row is decreased in amplitude by the first relative degree, the sound emitted by the inwardly directed second emitter of each row is increased by the first relative degree and the sound emitted by the outwardly directed second emitter of each row is decreased by the first relative degree,

30. A system for an audience area, the audience area having a near field compensation border and a far field compensation border, the audience area having first and second portions on approximately either side of an imaginary axis line running from the near field compensation border to the far field compensation border, the audience area being adjacent a second area along the near field compensation border, the axis line extending into the second area, the system comprising:

a first emitter array having a first plurality of sound emitters located in the second area on a first side of the axis line, a first of the first plurality of sound emitters positioned to direct a center of a sound wave at a first angle with respect to the axis line and a second of the first plurality of sound emitters positioned to direct a center of a sound wave sound at a second angle with respect to the axis line; a second emitter array having a second plurality of sound emitters located in the second area on a second side of the axis line, a first of the second plurality of sound emitters positioned to direct a center of a sound wave at a third angle with respect to the axis line and a second of the second plurality of sound emitters positioned to direct a center of a sound wave sound at a fourth angle with respect to the axis line; and

an emitter energy apportioner configured to be coupled to the first plurality of sound emitters and the second plurality of sound emitters to send a first signal having a first information content to the first plurality of sound emitters in an apportioned manner so that the first signal received by the first of the first plurality of sound emitters has a different degree of magnitude than the first signal received by the second of the first plurality of sound emitters and to send a second signal having a second information content to the second plurality of sound emitters in an uniform manner so that the second signal received by the first of the second plurality of sound emitters approximates the degree of magnitude of the second signal received by the second of the second plurality of sound emitters so that at a first location in the audience area a first distant from the near field compensation border and at second distance from the axis line, for a range of audible sound frequencies, the relative difference between the amplitude of sound received from the first emitter array and the amplitude of sound received from the second emitter array approximates the relative difference between the amplitude of sound received from the first emitter array and the amplitude of sound received from the second emitter array at a second location in the audience area being the first distance from the near field compensation border and being a distance from the axis line other than the second distance.

31. A system for an audience area, the audience area having a near field compensation border and a far field compensation border, the audience area having first and second portions on approximately either side of an imaginary axis line running from the near field compensation border to the far field compensation border, the audience area being adjacent a second area along the near field compensation border, the axis line extending into the second area, the system comprising:

a first emitter array having a first plurality of sound emitters located in the second area on a first side of the axis line, a first of the first plurality of sound emitters positioned to direct a center of a sound wave at a first angle with respect to the axis line and a second of the first plurality of sound emitters positioned to direct a center of a sound wave sound at a second angle with respect to the axis line; a second emitter array having a second plurality of sound emitters located in the second area on a second side of the axis line, a first of the second plurality of sound emitters positioned to direct a center of a sound wave at

a third angle with respect to the axis line and a second of the second plurality of sound emitters positioned to direct a center of a sound wave sound at a fourth angle with respect to the axis line; and

an emitter energy apportioner configured to be coupled to the first plurality of sound emitters and the second plurality of sound emitters to send a first signal having a first information content to the first plurality of sound emitters in an apportioned manner so that the first signal received by the first of the first plurality of sound emitters has a different degree of magnitude than the first signal received by the second of the first plurality of sound emitters and to send a second signal having a second information content to the second plurality of sound emitters in an apportioned manner so that the second signal received by the first of the second plurality of sound emitters has a different degree of magnitude than the second signal received by the second of the second plurality of sound emitters so that at a first location in the audience area a first distant from the near field compensation border and at second distance from the axis line, for a range of audible sound frequencies, the relative difference between the amplitude of sound received from the first emitter array and the amplitude of sound received from the second emitter array approximates the relative difference between the amplitude of sound received from the first emitter array and the amplitude of sound received from the second emitter array at a second location in the audience area being the first distance from the near field compensation border and being a distance from the axis line other than the second distance.

32. A method for an audience area, the audience area having a near field compensation border, the audience area being adjacent a second area along the near field compensation border, the second area having a first reference location, the method comprising:

placing a plurality of sound emitters in a first configuration in the second area; and

sending signals to the sound emitters having energy distributed amongst the signals such that the sound emitters being in the first configuration in the second area collectively emit a first sound pattern, the first sound pattern configured to be received having a first sound energy amplitude for at least a first sound frequency by a sound receiver at a first location in the audience area a first distance from the near field compensation border and a

second distance from the first reference location with the sound receiver facing the first reference location in the second area, the first sound pattern configured to be received having a second sound energy amplitude for at least the first sound frequency by the sound receiver at a second location in the audience area a third distance from the near field compensation border and a fourth distance from the first reference location with the sound receiver facing the first reference location in the second area, the first distance approximating the third second distance, the second distance being different from the fourth distance, and the first sound energy amplitude approximating the second sound energy amplitude.

33. A method for an audience area, the audience area having a near field compensation border, the audience area containing a sound receiver having a left channel sound receiver and a right channel sound receiver, the audience area being adjacent a second area along the near field compensation border, the second area having a first reference location the method comprising:

placing a plurality of sound emitters configured in a first configuration in the second area; and

sending signals to the plurality of sound emitters having energy distributed amongst the signals such that the sound emitters being in the first configuration in the second area collectively emit a first sound pattern, the first sound pattern configured to be received having a first audible sound information content with a first left channel frequency-amplitude distribution to be received by the left channel receiver of the sound receiver and a first right channel frequency-amplitude distribution to be received by the right channel receiver of the sound receiver at a first location in the audience area a first distance from the near field compensation border and a second distance from the first reference location with the sound receiver facing the first reference location in the second area, the first sound pattern configured to be received having a second audible sound information content with a second left channel frequency-amplitude distribution to be received by the left channel receiver of the sound receiver and a second right channel frequency-amplitude distribution to be received by the right channel receiver of the sound receiver by the sound receiver at a second location in the audience area a third distance from the near field compensation border and a fourth distance from the first reference location with the sound receiver facing the first reference location in the second area, the first distance approximating the

third distance, the second distance being different from the fourth distance, and the differences between the first left channel frequency-amplitude distribution and the first right channel frequency-amplitude distribution approximating the differences between the second left channel frequency-amplitude distribution and the second right channel frequency-amplitude distribution.

34. A method for an audience area, the audience area having a near field compensation border and a far field compensation border, the audience area having first and second portions on approximately either side of an imaginary axis line running from the near field compensation border to the far field compensation border, the audience area being adjacent a second area along the near field compensation border, the axis line extending into the second area, the method comprising:

having a first plurality of sound emitters in the second area on a first side of the axis line, at least one of the first plurality of sound emitters positioned as an inwardly directed first emitter to emit sound toward the audience area and toward the axis line, at least one of the first plurality of sound emitters positioned as an outwardly directed first emitter to emit sound toward the audience area and away from the axis line;

having a second plurality of sound emitters in the second area on a second side of the axis line, at least one of the second plurality of sound emitters positioned as an inwardly directed second emitter to emit sound toward the audience area and toward the axis line, at least one of the second plurality of sound emitters positioned as an outwardly directed second emitter to emit sound toward the audience area and away from the axis line;

sending a first signal having a first information content to the first plurality of sound emitters in an apportioned manner so that the first signal received by the inwardly directed first emitter has a larger magnitude than the first signal received by the outwardly directed first emitter; and

sending a second signal having a second information content to the second plurality of sound emitters in an apportioned manner so that the second signal received by the inwardly directed second emitter has a larger magnitude than the first signal received by the outwardly directed second emitter.

35. A method for an audience area, the audience area having a near field compensation border and a far field compensation border, the audience

area having first and second portions on approximately either side of an imaginary axis line running from the near field compensation border to the far field compensation border, the audience area being adjacent a second area along the near field compensation border, the axis line extending into the second area, the method comprising:

having a first plurality of sound emitters in the second area on a first side of the axis line, a first of the first plurality of sound emitters positioned to direct a center of a sound wave at a first angle with respect to the axis line and a second of the first plurality of sound emitters to direct a center of a sound wave sound at a second angle with respect to the axis line;

having a second plurality of sound emitters in the second area on a second side of the axis line, a first of the second plurality of sound emitters positioned to direct a center of a sound wave at a third angle with respect to the axis line and a second of the second plurality of sound emitters to direct a center of a sound wave sound at a fourth angle with respect to the axis line;

sending a first signal having a first information content to the first plurality of sound emitters in an apportioned manner so that the first signal received by the first of the first plurality of sound emitters has a different degree of magnitude than the first signal received by the second of the first plurality of sound emitters; and

sending a second signal having a second information content to the second plurality of sound emitters in an apportioned manner so that the second signal received by the first of the second plurality of sound emitters has a different degree of magnitude than the second signal received by the second of the second plurality of sound emitters so that at a number of locations in the audience area equidistant from the near field compensation border and at different distances from the axis line the amplitude of sound received from the first emitter array is approximately constant and the amplitude of sound received from the second emitter array is approximately constant.

36. A method for an audience area, the audience area having a near field compensation border and a far field compensation border, the audience area having first and second portions on approximately either side of an imaginary axis line running from the near field compensation border to the far field compensation border, the audience area being adjacent a second area along the

near field compensation border, the axis line extending into the second area, the method comprising:

having a first plurality of sound emitters in the second area on a first side of the axis line, at least one of the first plurality of sound emitters positioned as an inwardly directed first emitter to emit sound toward the audience area and toward the axis line, at least one of the first plurality of sound emitters positioned as an outwardly directed first emitter to emit sound toward the audience area and away from the axis line;

having a second plurality of sound emitters in the second area on a second side of the axis line, at least one of the second plurality of sound emitters positioned as an inwardly directed second emitter to emit sound toward the audience area and toward the axis line, at least one of the second plurality of sound emitters positioned as an outwardly directed second emitter to emit sound toward the audience area and away from the axis line; and

sending a first signal having a first information content to the first plurality of sound emitters and a second signal having a second information content to the second plurality of sound emitters in an apportioned manner so that as the amplitude of the first signal received by the inwardly directed first emitter is increased in amplitude a first degree, the amplitude of the first signal received by the outwardly directed first emitter is decreased in amplitude by the first degree and the second signal received by the inwardly directed second emitter is increased by the first degree and the second signal received by the outwardly directed second emitter is decreased by the first degree.

37. A method for an audience area, the audience area having a near field compensation border and a far field compensation border, the audience area having first and second portions on approximately either side of an imaginary axis line running from the near field compensation border to the far field compensation border, the audience area being adjacent a second area along the near field compensation border, the axis line extending into the second area, the method comprising:

having a first plurality of sound emitters in the second area on a first side of the axis line, at least one of the first plurality of sound emitters positioned as an inwardly directed first emitter to emit sound toward the audience area and toward the axis line, at least one of the first plurality of sound emitters

positioned as an outwardly directed first emitter to emit sound toward the audience area and away from the axis line;

having a second plurality of sound emitters in the second area on a second side of the axis line, at least one of the second plurality of sound emitters positioned as an inwardly directed second emitter to emit sound toward the audience area and toward the axis line, at least one of the second plurality of sound emitters positioned as an outwardly directed second emitter to emit sound toward the audience area and away from the axis line; and

sending a first signal having a first information content to the first plurality of sound emitters and a second signal having a second information content to the second plurality of sound emitters in an apportioned manner so that as the amplitude of the sound emitted by the inwardly directed first emitter is increased in the amplitude a first degree, the amplitude of the sound emitted by the outwardly directed first emitter is decreased in amplitude by the first degree, the sound emitted by the inwardly directed second emitter is increased by the first degree and the sound emitted by the outwardly directed second emitter is decreased by the first degree.

38. A method for an audience area, the audience area having a near field compensation border and a far field compensation border, the audience area having first and second portions on approximately either side of an imaginary axis line running from the near field compensation border to the far field compensation border, the audience area being adjacent a second area along the near field compensation border, the axis line extending into the second area, the method comprising:

having a first plurality of sound emitters in the second area on a first side of the axis line, the first plurality having a plurality of rows of sound emitters, the emitters for each row being angled differently relative to a horizontal reference, each of the rows of emitters being associated with a different section of the audience area having a different minimum distance and a different maximum distance from the near field compensation border, for each row, at least one of the first plurality of sound emitters positioned as an inwardly directed first emitter to emit sound toward the audience area and toward the axis line, for each row, at least one of the first plurality of sound emitters positioned as an outwardly directed first emitter to emit sound toward the audience area and away from the axis line;

having a second plurality of sound emitters in the second area on a second side of the axis line, the second plurality having a plurality of rows of sound emitters, the emitters for each row being angled differently relative to a horizontal reference, each of the rows of emitters being associated with a different section of the audience area having a different minimum distance and a different maximum distance from the near field compensation border, for each row, at least one of the second plurality of sound emitters positioned as an inwardly directed second emitter to emit sound toward the audience area and toward the axis line, for each row, at least one of the second plurality of sound emitters positioned as an outwardly directed second emitter to emit sound toward the audience area and away from the axis line;

sending a first signal having a first information content to the first plurality of sound emitters in an apportioned manner so that the first signal received by the inwardly directed first emitter of each row has a larger magnitude than the first signal received by the outwardly directed first emitter of each row, the difference in magnitudes between signals being received by the inwardly directed first emitter and outwardly directly first emitter of each row being smaller as the row is associated with sections of the audience area with larger minimum and maximum distances from the near field border; and

sending a second signal having a second information content to the second plurality of sound emitters in an apportioned manner so that the second signal received by the inwardly directed second emitter of each row has a larger magnitude than the first signal received by the outwardly directed second emitter of each row, the difference in magnitudes between signals being received by the inwardly directed second emitter and outwardly directly second emitter of each row being smaller as the row is associated with sections of the audience area with larger minimum and maximum distances from the near field border.

39. A method for an audience area, the audience area having a near field compensation border and a far field compensation border, the audience area having first and second portions on approximately either side of an imaginary axis line running from the near field compensation border to the far field compensation border, the audience area being adjacent a second area along the near field compensation border, the axis line extending into the second area, the method comprising:

having a first plurality of sound emitters in the second area on a first side of the axis line, the first plurality having a plurality of rows of sound emitters, the emitters for each row being angled differently relative to a horizontal reference, each of the rows of emitters being associated with a different section of the audience area having a different minimum distance and a different maximum distance from the near field compensation border, for each row, at least one of the first plurality of sound emitters positioned as an inwardly directed first emitter to emit sound toward the audience area and toward the axis line, for each row at least one of the first plurality of sound emitters positioned as an outwardly directed first emitter to emit sound toward the audience area and away from the axis line;

having a second plurality of sound emitters located in the second area on a second side of the axis line, the second plurality having a plurality of rows of sound emitters, the emitters for each row being angled differently relative to a horizontal reference, each of the rows of emitters being associated with a different section of the audience area having a different minimum distance and a different maximum distance from the near field compensation border, for each row, at least one of the second plurality of sound emitters positioned as an inwardly directed second emitter to emit sound toward the audience area and toward the axis line, for each row, at least one of the second plurality of sound emitters positioned as an outwardly directed second emitter to emit sound toward the audience area and away from the axis line; and

sending a first signal having a first information content to the first plurality of sound emitters and a second signal having a second information content to the second plurality of sound emitters in an apportioned manner so that as the amplitude of the sound emitted by the inwardly directed first emitter of each row is increased in the amplitude a first relative degree, the amplitude of the sound emitted by the outwardly directed first emitter of each row is decreased in amplitude by the first relative degree, the sound emitted by the inwardly directed second emitter of each row is increased by the first relative degree and the sound emitted by the outwardly directed second emitter of each row is decreased by the first relative degree,

40. A method for an audience area, the audience area having a near field compensation border and a far field compensation border, the audience area having first and second portions on approximately either side of an

imaginary axis line running from the near field compensation border to the far field compensation border, the audience area being adjacent a second area along the near field compensation border, the axis line extending into the second area, the method comprising:

having a first plurality of sound emitters in the second area on a first side of the axis line, a first of the first plurality of sound emitters positioned to direct a center of a sound wave at a first angle with respect to the axis line and a second of the first plurality of sound emitters positioned to direct a center of a sound wave sound at a second angle with respect to the axis line;

having a second plurality of sound emitters in the second area on a second side of the axis line, a first of the second plurality of sound emitters positioned to direct a center of a sound wave at a third angle with respect to the axis line and a second of the second plurality of sound emitters positioned to direct a center of a sound wave sound at a fourth angle with respect to the axis line; and

sending a first signal having a first information content to the first plurality of sound emitters in an apportioned manner so that the first signal received by the first of the first plurality of sound emitters has a different degree of magnitude than the first signal received by the second of the first plurality of sound emitters and a second signal having a second information content to the second plurality of sound emitters in an uniform manner so that the second signal received by the first of the second plurality of sound emitters approximates the degree of magnitude of the second signal received by the second of the second plurality of sound emitters so that at a first location in the audience area a first distant from the near field compensation border and at second distance from the axis line, for a range of audible sound frequencies, the relative difference between the amplitude of sound received from the first emitter array and the amplitude of sound received from the second emitter array approximates the relative difference between the amplitude of sound received from the first emitter array and the amplitude of sound received from the second emitter array at a second location in the audience area being the first distance from the near field compensation border and being a distance from the axis line other than the second distance.

41. A method for an audience area, the audience area having a near field compensation border and a far field compensation border, the audience

area having first and second portions on approximately either side of an imaginary axis line running from the near field compensation border to the far field compensation border, the audience area being adjacent a second area along the near field compensation border, the axis line extending into the second area, the method comprising:

having a first plurality of sound emitters in the second area on a first side of the axis line, a first of the first plurality of sound emitters positioned to direct a center of a sound wave at a first angle with respect to the axis line and a second of the first plurality of sound emitters positioned to direct a center of a sound wave sound at a second angle with respect to the axis line;

having a second plurality of sound emitters in the second area on a second side of the axis line, a first of the second plurality of sound emitters positioned to direct a center of a sound wave at a third angle with respect to the axis line and a second of the second plurality of sound emitters positioned to direct a center of a sound wave sound at a fourth angle with respect to the axis line; and

sending a first signal having a first information content to the first plurality of sound emitters in an apportioned manner so that the first signal received by the first of the first plurality of sound emitters has a different degree of magnitude than the first signal received by the second of the first plurality of sound emitters and a second signal having a second information content to the second plurality of sound emitters in an apportioned manner so that the second signal received by the first of the second plurality of sound emitters has a different degree of magnitude than the second signal received by the second of the second plurality of sound emitters so that at a first location in the audience area a first distant from the near field compensation border and at second distance from the axis line, for a range of audible sound frequencies, the relative difference between the amplitude of sound received from the first emitter array and the amplitude of sound received from the second emitter array approximates the relative difference between the amplitude of sound received from the first emitter array and the amplitude of sound received from the second emitter array at a second location in the audience area being the first distance from the near field compensation border and being a distance from the axis line other than the second distance.